PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

11 JAN 2005

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 302671WO/KGS/D	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/IB2003/003543	International filing date *(day/month/year)* 11-07-2003	Priority date *(day/month/year)* 12-07-2002
International Patent Classification (IPC) or national classification and IPC H04Q		
Applicant Nokia Corporation et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☒ *(sent to the applicant and to the International Bureau)* a total of 9 sheets, as follows:
      ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items:
   - ☒ Box No. I Basis of the report
   - ☐ Box No. II Priority
   - ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - ☐ Box No. IV Lack of unity of invention
   - ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - ☐ Box No. VI Certain documents cited
   - ☐ Box No. VII Certain defects in the international application
   - ☒ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
12-02-2004	15-10-2004
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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/IB2003/003543

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

☐ the international application as originally filed/furnished

☒ the description:

pages 1-17 as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____

☒ the claims:

pages _____ as originally filed/furnished
pages* _____ as amended (together with any statement) under Article 19
pages* 18-26 received by this Authority on 2004-08-13
pages* _____ received by this Authority on _____

☒ the drawings:

pages 1-4 as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing *(specify)*: _____
☐ any table(s) related to the sequence listing *(specify)*: _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing *(specify)*: _____
☐ any table(s) related to the sequence listing *(specify)*: _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

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Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	2-56	YES
	Claims	1	NO
Inventive step (IS)	Claims	2-17,21-55	YES
	Claims	1,18-20,56	NO
Industrial applicability (IA)	Claims	1-56	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

The claimed invention relates to the problem of establishing a communication connection between a user equipment in a robust way. The problem is solved by way of including, and responding to, a preferred communication connection in the request.

In the international search report the following documents were cited:

D1 WO 00 78080 A
D2 WO 02 03718 A
D3 WO 02 32177 A

D1 relates to a method and an arrangement for indicating specificity for PDP contexts. Upon activating a new packet switched communication connection between a mobile station and a fixed packet-switched data transmission network, an activation request message with a service type indicator field (302) is transmitted from the mobile station to an SGSN, which selects an appropriate GGSN. Based on the received service type indicator, the GGSN selects a network element as a provider for the requested service and establishes a connection between the selected network element and the mobile station via a logical tunnel. After activating the service an accept message is sent to the mobile station (See page 2, line 3-page 3, line 17; page 4, line 7-line 30).

Consequently, D1 describes a method for establishing a communication connection for traffic between a user equipment and a network, which establishment is initiated from the user equipment. The user equipment also has forward preferences for the requested communication connection to a SGSN and GGSN. On the basis of these preferences the selected GGSN selects a network element to be involved in the communication connection of the requested traffic.

.../...

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Parts of the communication connection, therefore is selected on the basis of the received preferences. The user equipment is finally notified of the selected connection. Claim 1 fails to clearly distinguish from the method which is already known from D1. Therefore, this method fails to describe a novel invention.

Claim 18 describes a specific request which is not mentioned in D1. Such a request is, however, suggested in D2 (See page 15, line 21-page 17, line 14), and since both documents do refer to the same technical field a combination of D1 and D2 is considered obvious to the person skilled in the art. For this reason, claims 18 and 19 fail to involve an inventive step.

In addition, selecting communication on the basis of a network policy only describe one alternative which is considered obvious to the person skilled in the art. Therefore, also claim 20 fails to involve an inventive step.

Claim 56 mention a cause code having the purpose of indicating a PDP context activation by a network to a user equipment. During signalling between network entities and user equipment various kinds of forms of signalling, in uplink as well as in downlink, to be used for various purposes is known to the person skilled in the art. Claim 56 fails to distinguish the proposed cause code from codes which are commonly used in known communication systems (See Box VIII). Even though no cause code to be used for this particular purpose is explicitly mentioned in any of the cited documents, the cause code mentioned in claim 56 fails to involve an inventive step.

None of the cited document do, however, suggest a selection of a PDP context. Nor is it considered obvious to the person skilled in the art to execute such a selection and to inform the user equipment of the selected PDP context. Therefore, the method as claimed in any of claims 2-17 and 21-55 is novel, is considered to involve an inventive step and have industrial applicability.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 56 does not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. The following functional statements do not enable the skilled person to determine which technical features are necessary to perform the stated function: The providing of a cause code which is indicating a signalling PDP context.

CLAIMS

1. A method of establishing a communication connection for traffic between a user equipment and a network, comprising: transmitting a communication connection request from the user equipment to a network element, the request including an indication of a preferred communication connection; receiving a least a part of said request at the network element; selecting at the network element a communication connection for the traffic; and communicating the selected communication connection to the user equipment.

2. A method according to claim 1 wherein an alternative communication connection is selected at the network element in the event that the preferred communication connection is not supported by the network.

3. A method according to claim 1 wherein the communication connection is a PDP context.

4. A method according to claim 3 wherein the step of communicating comprises transmitting a message to the user equipment identifying the selected PDP context.

5. A method according to claim 3 wherein the step of communicating comprises transmitting a message to the user equipment identifying the non-selected PDP context.

6. A method according to any one of claims 3 to 5 wherein the step of selecting the PDP context is dependent upon the preferred PDP context and the PDP contexts supported by the network.

7. A method according to claim 6 wherein the step of communicating comprises transmitting a message to the user equipment confirming that the preferred PDP context is selected.

8. A method according to claim 6 wherein the step of communicating comprises transmitting a message to the user equipment rejecting the preferred PDP context.

9. A method according to claim 6 wherein the message identifies an alternative to the preferred PDP context.

10. A method according to any one of claims 3 to 9 wherein the step of selecting comprises determining the type of traffic to be transmitted on the PDP context.

11. A method according to any one of claims 3 to 10 wherein the step of selecting comprises selecting a first PDP context for a first set of traffic type and selecting a second PDP context for a second set of traffic type.

12. A method according to claim 10 or claim 11 wherein the step of communicating includes communicating the allowed traffic types to the user equipment.

13. A method according to any one of claims 3 to 12 wherein the traffic is signalling traffic.

14. A method according to any one of claims 3 to 13 wherein the at least two PDP contexts include a dedicated signalling PDP context and a general purpose PDP context.

15. A method according to any one of claims 3 to 14 further comprising the step of receiving the PDP request from the user equipment at a further network element, and transmitting the PDP request from the further network element to the network element.

16. A method according to claim 15 wherein the further network element removes the preferred PDP context from the request such that the request transmitted from the further network element to the network element does not include an indication of a preferred PDP context.

17. A method according to any one of claims 3 to 16 wherein the step of communicating includes transmitting a cause code or signalling flag.

18. A method according to any one of claims 1 to 3 wherein the communication request identifies an emergency connection request.

19. A method according to claim 18 when dependent upon claim 3 wherein the communication request identifies an emergency PDP context.

20. A method according to claim 18 or claim 19 wherein the selection of the communication for the traffic is dependent upon a network policy.

21. A method of establishing a PDP context for signalling traffic between a user equipment and a network, comprising: receiving a first PDP request from the user equipment at a first network element, the PDP request including an identity of a preferred PDP context; receiving a second PDP request from the first network element at a second network element, the second PDP request including at least part of the first PDP request; selecting, at the second network element, a PDP context for the signalling traffic; and confirming the selected PDP context to the user equipment.

22. A method according to claim 21, wherein the second PDP request includes the identity of the preferred PDP context, wherein the second network element selects the PDP context in dependence on the preferred PDP context and the PDP contexts supported by the network.

23. A method according to claim 21, wherein the second PDP request does not include the identity of the preferred PDP context, wherein the second network element selects the PDP context in dependence on PDP contexts supported by the network.

24. A method according to claim 23 wherein the selected PDP context is a default PDP context.

25. A method according to any one of claims 22 to 24 wherein the selected PDP context includes one of a dedicated signalling PDP context and a general purpose PDP context.

26. A method according to any one of claims 22 to 25 wherein the step of confirming comprises transmitting a cause code to the user equipment.

27. A method according to claim 21 wherein the preferred PDP context is an emergency PDP context,

28. A computer program product for storing computer program code adapted to perform the method of any one of claims 3 to 27.

29. A network element for determining a communication connection for traffic between a user equipment and a network, comprising: means for receiving a communication connection request from the user equipment; means for selecting a communication channel for the traffic; and means for communicating the selected communication to the user equipment.

30. A network element according to claim 29 wherein the communication channel is a PDP context.

31. A network element according to claim 29 or claim 30 wherein the communication channel request includes an identity of a preferred communication channel.

32. A network element according to claim 29 or claim 31 wherein the means for communicating is adapted to transmit a message to the user equipment identifying the selected PDP context.

33. A network element according to claim 29 or claim 31 wherein the means for communicating is adapted to transmit a message to the user equipment identifying the non-selected PDP context.

34. A network element according to any one of claims 29 to 33 wherein the means for selecting one of at least two PDP contexts is responsive to the PDP contexts supported by the network.

35. A network element according to claim 34 wherein the PDP request includes an identity of a preferred PDP context, the means for selecting being further responsive to the preferred PDP context.

36. A network element according to claim 35 wherein the means for communicating is adapted to transmit a message to the user equipment confirming that the preferred PDP context is selected.

37. A network element according to any one of claims 30 to 36 wherein the means for selecting comprises means for determining the type of traffic to be transmitted on the PDP context.

38. A network element according to any one of claims 30 to 37 wherein the means for selecting comprises means for selecting a first PDP context for a first set of signalling types and means for selecting a second PDP context for a second set of signalling types.

39. A network element according to claim 37 or 38 wherein the means for communicating is adapted to communicate the allowed traffic types to the user equipment.

40. A network element according to any one of claims 30 to 37 wherein the traffic is signalling traffic.

41. A network element according to any one of claims 30 to 40 wherein the PDP contexts include a dedicated signalling PDP context and a general purpose PDP context.

42. A network element according to any one of claims 30 to 41 comprising a gateway GPRS support node.

43. A network element according to claim 42 wherein the means for requesting is connected to receive the PDP request from a serving GPRS support node.

44. A network element according to claim 35 wherein the preferred communication channel is an emergency communication channel.

45. A network element for determining a PDP context for traffic between a user equipment and a network, comprising: means for receiving a first PDP request from the user equipment at a first network element, the first PDP request including an identity of a preferred PDP context; means for receiving a second PDP request from the first network element at a second network element, the second PDP request including at least part of the first PDP request; the second

network element including means for selecting a PDP context for the traffic; and means for confirming the selected PDP context to the user equipment.

46. A network element according to claim 45 wherein the second PDP request includes the identity of the preferred PDP context, the means for selecting being dependent upon the preferred PDP context and the PDP contexts supported by the network.

47. A network element according to claim 46 wherein the second PDP request does not include the identity of the preferred PDP context, wherein the second network element selects the PDP context in dependence on PDP contexts supported by the network.

48. A network element according to claim 47 wherein the selected PDP context is a default PDP context.

49. A network element according to any one of claims 45 to 48 wherein the selected PDP context is one of a dedicated signalling PDP context and a general purpose PDP context.

50. A network element according to any one of claims 45 to 49 wherein the first network element is a SGSN and the second network element is a GGSN.

51. A network element according to claim 50 wherein the message is a cause code to the user equipment.

52. A network element according to claim 45 wherein the preferred PDP context is an emergency PDP context.

53. A communication system including a serving GPRS support node for receiving a PDP request from a user equipment, the PDP request including an identity of a preferred PDP context; and a gateway GPRS support node for receiving a PDP request from the serving GPRS support node, wherein the gateway GPRS support node is adapted to select a dedicated signalling PDP context or a general purpose PDP context for signalling traffic between the user equipment and the communication system in dependence upon the PDP contexts supported by the network and to confirm the selected PDP context to the user equipment.

54. A communication system according to claim 53 wherein the gateway GPRS support node receives the PDP request from the serving GPRS node including the identity of preferred PDP context, the gateway GPRS support node being further adapted to select the signalling PDP context in further dependence on the identity of the preferred PDP context.

55. A cause code for a communication system in which a PDP context is to be established for traffic between a user equipment and a network, the PDP context being established by: receiving a PDP request from the user equipment at a network element; selecting a dedicated signalling PDP context or a general purpose PDP context for the traffic; and confirming the selected PDP context to the user equipment using the cause code.

56. A cause code for a 3GPP R5 communication system which indicates a signalling PDP context activated by a network to a user equipment.